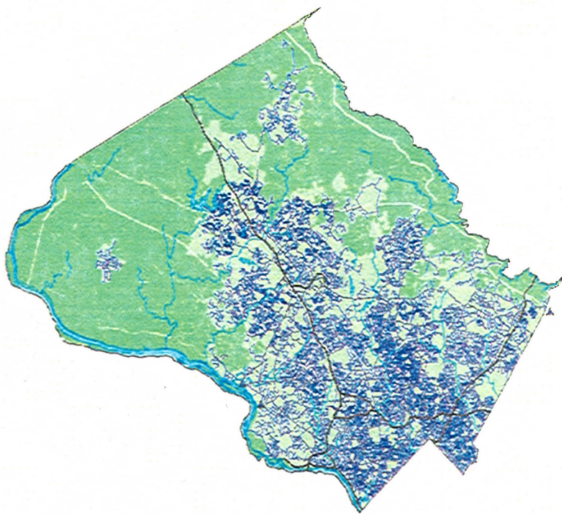
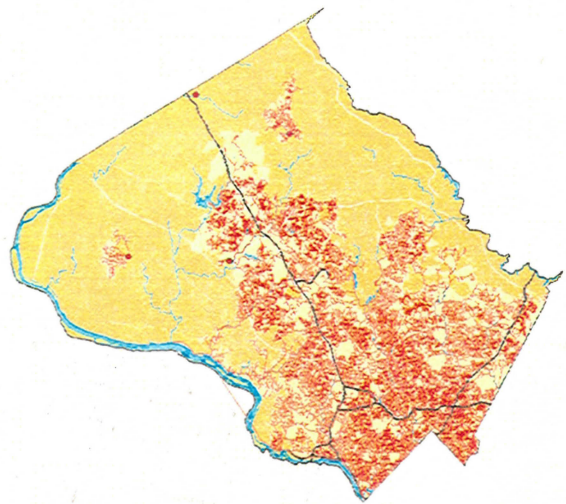


Ten-Year Comprehensive Water Supply and Sewerage Systems Plan 2003 - 2012



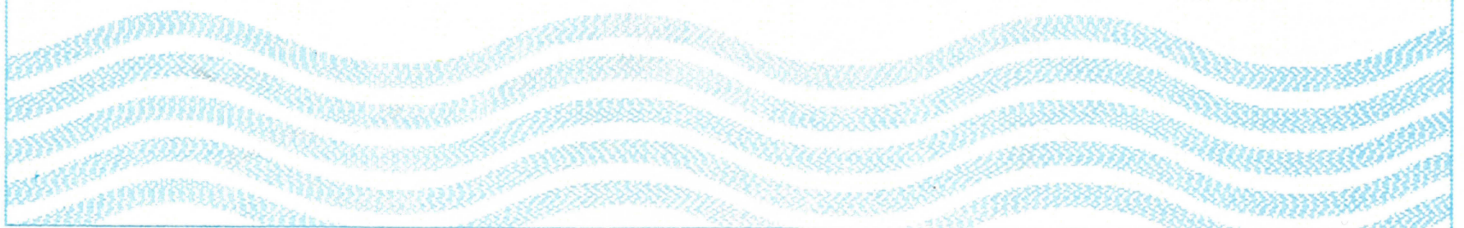
Community Water Supply Systems



Community Sewerage Systems

APPROVED PLAN — NOVEMBER 2003

PUBLISHED BY THE MONTGOMERY COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION



M O N T G O M E R Y C O U N T Y , M A R Y L A N D

MONTGOMERY COUNTY, MARYLAND

**TEN-YEAR COMPREHENSIVE
WATER SUPPLY AND
SEWERAGE SYSTEMS PLAN**

APPROVED 2003 - 2012 PLAN



**Department of Environmental Protection
Watershed Management Division**

**Montgomery County, Maryland
Ten-Year Comprehensive Water Supply
and Sewerage Systems Plan**

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**The Department of Environmental Protection gratefully acknowledges the
cooperation and participation of the following agencies in the preparation
of this Plan:**

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Montgomery County Department of Public Works and Transportation

Montgomery County Department of Technology Services

Maryland – National Capital Park and Planning Commission

Washington Suburban Sanitary Commission

City of Rockville Department of Public Works

Town of Poolesville

District of Columbia Water and Sewer Authority

Metropolitan Washington Council of Governments

Interstate Commission on the Potomac River Basin

MONTGOMERY COUNTY, MARYLAND
COMPREHENSIVE WATER SUPPLY AND SEWERAGE SYSTEMS PLAN
SUMMARY TABLE OF CONTENTS
APPROVED 2003 - 2012 PLAN

Section	Page
EXECUTIVE SUMMARY	i – v
CHAPTER 1: OBJECTIVES AND POLICIES	
I. INTRODUCTION	1-1
A. Plan Goals and Objectives	1-1
B. Purpose	1-1
C. Legal Requirements	1-1
D. Government Responsibilities: Water Supply & Sewerage System Service	1-2
E. Plan Structure and Content	1-10
II. POLICIES FOR THE PROVISION OF WATER AND SEWERAGE SERVICE	1-11
A. Water & Sewer Service Area Categories	1-11
B. Water & Sewer Service Development Policies: Service Area Designation	1-13
C. Water and Sewer Service Planning in the Development Review Process	1-15
D. General Policies for Water and Sewer Service	1-15
E. Special Policies for Water and Sewer Service	1-18
III. POLICIES FOR WATER SUPPLY & SEWERAGE SYSTEMS FACILITIES	1-31
A. Community Systems Facilities	1-31
B. Individual and Multi-Use On-Site Systems	1-34
IV. WATER AND SEWERAGE SYSTEMS FINANCING	1-35
A. Washington Suburban Sanitary District	1-35
B. City of Rockville	1-38
C. Town of Poolesville	1-39
D. Individual Systems Financing	1-39
V. PROCEDURES FOR ADOPTING & AMENDING THE WATER AND SEWER PLAN	1-39
A. Plan Amendment Actions	1-40
B. Water and Sewer Category Map Updates	1-41
C. Comprehensive Amendments Related to Master Plans	1-41
D. Filing Individual Service Area Category Change Requests	1-42
E. Refiling of Denied or Withdrawn Amendments	1-43
F. Administrative Delegation	1-43
G. Public Outreach	1-46
CHAPTER 2: GENERAL BACKGROUND	
I. INTRODUCTION	2-1
II. NATURAL ENVIRONMENT	2-1
A. Topography	2-1
B. Climate	2-1
C. Geology	2-1
D. Soils	2-4
E. Water Resources	2-4
III. CULTURAL ENVIRONMENT	2-16
A. Legal Requirements and Other Policy Guidance	2-16
B. Land Use	2-18

Section

Page

CHAPTER 3: WATER SUPPLY SYSTEMS

I. INTRODUCTION	3-1
A. Water Service Area Categories	3-1
B. Sanitary Districts	3-1
II. WASHINGTON SUBURBAN SANITARY DISTRICT	3-1
A. Government Responsibilities	3-4
B. Water Supply Sources	3-4
C. Water Supply Sources Programs and Policies	3-8
D. Water Treatment Facilities	3-13
E. Water Distribution and Storage Systems	3-14
F. Projected Water Demand and Supply System Needs	3-21
III. ROCKVILLE SANITARY DISTRICT	3-25
A. Service Policies	3-25
B. Water Supply Source	3-27
C. Water Source Policies and Drought Management	3-27
D. Water Treatment Facility	3-27
E. Water Supply Distribution and Storage System	3-28
IV. TOWN OF POOLESVILLE	3-30
A. Water Supply Source	3-31
B. Source Water Protection Programs	3-33
C. Water Distribution System	3-34
D. System Redundancy	3-34
E. Projected Growth and Water System Demand	3-34
F. Projected Water Supply System Facility Needs	3-34
G. Financing Water Systems	3-35
V. INDIVIDUAL WATER SUPPLY SYSTEMS AND RURAL SANITATION	3-35
A. Groundwater Supply Geologic Conditions	3-35
B. Groundwater Regulations and Protection Programs	3-37
C. Groundwater and Well Problems Areas	3-38
D. Multi-Use Water Supply Systems	3-39

CHAPTER 4: SEWERAGE SYSTEMS

I. INTRODUCTION	4-1
A. Sewer Service Area Categories	4-1
B. Sanitary Districts	4-1
C. Wastewater Treatment Service Areas	4-1
D. Watersheds and Sewersheds	4-1
II. WASHINGTON SUBURBAN SANITARY DISTRICT	4-8
A. Government Responsibilities	4-8
B. Programs and Policies	4-8
C. Existing and Planned Sewerage Systems and Projected Needs	4-18
III. ROCKVILLE SANITARY DISTRICT	4-56
A. Intergovernmental Agreements	4-57
B. Financing Sewerage Systems	4-57
C. Collection and Conveyance Systems	4-57
D. Treatment Facilities	4-59

<u>Section</u>	<u>Page</u>
IV. TOWN OF POOLESVILLE SERVICE AREA	4-59
A. Intergovernmental Agreements	4-59
B. Infiltration and Inflow Control Program	4-59
C. Financing Sewerage Systems	4-60
D. Collection and Conveyance Systems	4-60
E. Treatment Facilities	4-60
V. INDIVIDUAL WATER SUPPLY SYSTEMS AND RURAL SANITATION	4-62
A. Septic Systems Permitting	4-62
B. Septic Problem Areas	4-64
C. Multi-Use Sewerage Supply Systems	4-65
GLOSSARY	G-1
APPENDIX A: CAPITAL IMPROVEMENTS PROGRAM (CIP) PROJECTS	A-1
APPENDIX B: MULTI-USE WATER AND SEWERAGE SYSTEMS	B-1
APPENDIX C: M-NCPPC POPULATION AND EMPLOYMENT FORECASTS	C-1
APPENDIX D: LOCAL, MUNICIPAL, STATE, NAD REGIONAL AGENCIES.....	D-1
 COUNTY COUNCIL RESOLUTION NO. 15-396 (November 18, 2003)	
 WATER AND SEWER SERVICE AREA CATEGORY MAPS	(in pocket)

MONTGOMERY COUNTY COMPREHENSIVE WATER SUPPLY AND SEWERAGE SYSTEMS PLAN

APPROVED 2003 – 2012 PLAN

EXECUTIVE SUMMARY

The 2003 Ten-Year Comprehensive Water Supply and Sewerage Systems Plan (Water and Sewer Plan) provides a substantial update and partial rewrite of the adopted 1999 Plan. It includes updated information on County policies and plans, and continues to expand and improve on the use of Geographic Information System (GIS) technology to provide maps that more accurately reflect water and sewerage system information.

This 2003 Plan includes the adopted policies and plans contained in the 1999 Plan and in subsequent amendments, while deleting outdated or no longer relevant material. DEP has added updated information from a number of sources that reflect new information from both technical sources and related County plans. This information has been organized in the Plan's text, figures and maps in an attempt to make it more understandable to a broader audience. Technical information has been summarized and presented on both a watershed and planning area basis, in an attempt to allow the interested public the opportunity to focus on issues that relate to the geographic area in which they live.

The purpose of the Comprehensive Water Supply and Sewerage Systems Plan is to provide an overview of the planning policies, needs, issues and planned infrastructure related to community and individual water and sewerage systems, public health, environmental protection and land-use issues in Montgomery County. It is intended to provide both background information and a planning basis for the evaluation of water supply and sewerage system needs in the county. It is also expected to allow a more thorough context for developing, analyzing, and evaluating the issues related to the review and implementation of the Capital Improvement Program (CIP), including the timing and funding of identified projects. It seeks to achieve this purpose by:

- Outlining planning principles and policies that relate to land-use planning, infrastructure development, public health, and environmental protection;
- Describing current conditions of the water supply and sewerage systems relative to condition, capacity, availability, and related issues;
- Identifying and prioritizing community needs for improved water supply and sewerage infrastructure;
- Identifying planning and infrastructure projects needed to address existing or projected needs.

To achieve this purpose, the Water and Sewer Plan is organized into four chapters and several appendices. These four chapters address the following major subject areas:

Chapter 1: OBJECTIVES AND POLICIES

This chapter includes an introduction to the Comprehensive Water Supply and Sewerage Systems Plan, identifying its purpose, legal context, and governance issues. It outlines the plan's goals and objectives for the orderly and cost-effective development of community water supply and sewerage systems and summarizes the Plan's structure and content. Chapter 1 describes the planning process used in Montgomery County to stage and implement water and sewer infrastructure improvements, including identification of policies and a review of the procedures for the adoption of amendments and/or modifications to the Plan. This chapter includes both general and special-condition policies that have been adopted by the County Council for the designation of community water and sewer service areas, which regulate water and sewerage system extensions, connections, and their staging.

The update of Chapter 1 continues a process of policy and information consolidation which DEP began in the 1999 - 2008 Plan. This particularly applies to those sections addressing governmental agency responsibilities, special and restricted service area policies, and water and sewerage systems policies and

financing. This update also gathers together exceptional water and sewer service recommendations from the County's various local area master plans for easier reference.

The preceding changes are largely structural to the Plan, moving sections together with a common theme to provide for clarity, better continuity, and less redundancy. Chapter 1 also provides new policy directions and recommendations, as follow:

- Concerned over issues involved in several recent category change cases, the County Council requested last summer that DEP review the Plan's Private Institutional Facilities (PIF) policy, which addresses how the County considers water and sewer service for tax-exempt organizations. DEP based changes in the PIF policy on work done thus far by an interagency review group, and therefore, the policy presented in the 2003 update is viewed as an interim step towards a final policy. The policy is modified to:
 - Require that PIF request applicants must be the private institution seeking community water and/or sewer service;
 - Restrict the applicability of abutting mains category change approvals from PIF cases, specifying the County Council's review of abutting mains policy cases involving PIF uses;
 - Restrict WSSC capital projects, such as new wastewater pumping stations and force mains, from supporting *only* PIF uses; and
 - Recommend that the County will need to examine other policy and statutory requirements outside the Water and Sewer Plan to fully address the Council's concerns with regard to institutional land uses. Further, the Council requests that the Maryland – National Capital Park and Planning Commission investigate the establishment of impervious area limitations for institutional land uses in the county's rural and rural estate zones.
- In the continuing interest of streamlining the Water and Sewer Plan's amendment process, Chapter 1 also includes the following changes to DEP's administrative delegation authority:
 - A DEP staff-level administrative approval authority only for routine service area map corrections and updates, and for informational text amendments.
 - A DEP authority to direct WSSC to provide single residential water and/or sewer connections for cases which clearly satisfy the abutting mains service policy.
 - A DEP authority to deny requested Water and Sewer Plan amendments in cases where the reviewing agencies and all Councilmembers concur with a denial.
- DEP's experience with implementing the Plan's policy for community service for properties abutting water and/or sewer mains revealed a need for greater flexibility in addressing such cases. Accordingly, the policy has been expanded to address more specific circumstances (property consolidation, service to residual properties, etc.) and to allow DEP administrative action under a wider set of conditions.
- The Chapter urges support for a review of and revisions to WSSC's financing methods for service main extensions to individual houses, including those with health hazards, to keep such extensions affordable for individual property owners. Changes to WSSC's system extension procedures several years ago ended the subsidy of these smaller projects by larger subdivision projects, which were less expensive to build in terms of cost per linear foot of new main. Accordingly, the cost of these smaller projects has skyrocketed, leaving the cost of the extensions beyond the reach of many individual property owners. An interagency, bi-county, review group, led by WSSC, is examining alternative financing methods and potential cost-saving procedures.
- Previously, the Council's procedures for addressing previously deferred Plan amendments (usually category changes) left substantial latitude to the T&E Chair and Council President. However, the Council's action on a recent, controversial category change request raised concern with the public with regard to these procedures, especially with regard to public notification of the Council's pending

actions. The Council has adopted procedural changes to the Plan which specify required notification of Council and committee meetings to reviewing agencies and the public in these cases. The Council has also adopted changes which restrict an outgoing, "lame duck" Council from acting on Water and Sewer Plan amendments following County Council elections.

- The County Council established additional recommendations for DEP concerning the review and processing of Water and Sewer Plan amendments, which include the following:
 - DEP should investigate establishing a water/sewer service area category change application fee.
 - DEP should examine its public notification process for Water and Sewer Plan amendments and public hearings, and investigate the feasibility of creating more extensive notification procedures.

Chapter 2: GENERAL BACKGROUND

Chapter 2 provides an overview of the natural and cultural environments in Montgomery County. This chapter identifies the environmental features and characteristics of the county that have a bearing on development patterns, natural resources and other factors related to the physical environment. DEP has used GIS-based graphics to depict information related to watersheds, stream classifications, topography, and other natural features, such as soils, geology and groundwater. This information provides the background for resource protection as it relates to water supply and sewerage system planning in Montgomery County.

This chapter also identifies the cultural environment that includes the planning issues related to demographics, land-use, and development. This information in coordination with the policies adopted in the county's General Plan and land-use master plans identifies the areas of the county that are subject to development in the future and are therefore require new or expanded water supply and/or sewerage systems.

Chapter 3: WATER SUPPLY SYSTEMS

This chapter contains information about the various aspects of the county's water supply systems; including water supply sources, treatment, and distribution systems. It identifies the regional nature of the supply sources and the agreements that exist to address issues of water demand and drought management. There is also a discussion of the role of groundwater for both individual water supply systems and for the Town of Poolesville. In addition, the Chapter's discussion of rural sanitation issues now includes a table which summarizes known well water supply problem areas throughout the County. This information provides a basis for further investigations and actions to address these rural sanitation problems.

DEP restructured the 2003 update to individually address the three major community water supply systems in the county: WSSC, Rockville, and Poolesville. These systems are examined in detail with regard to their treatment, transmission and storage systems. In the geographically extensive WSSC system, graphics relate the various pressure zones to planning areas in the county. This information is provided to assist persons using this plan to understand the relationships between identified water supply projects to the identifiable geographic areas and potential impacts to those areas. These system descriptions also include a summary of the system improvements and growth projects.

Information is also provided on the projected needs of the major water supply systems in the county. Regional, bi-county and county-wide systems needs are reviewed based on information obtained from various reports and projected population growth in these areas. The projects that are planned to address these identified needs are summarized in the text of this chapter and in the appendix to the plan, which incorporates the project summary information of WSSC's most recent capital improvement program.

In addition to this documentation of the county's community water systems, Chapter 3 also presents policy recommendations and directions related to water supply systems for future guidance. The Chapter's major recommendations are summarized as follows:

- Recent drought conditions have highlighted the need for a better understanding of the flow needed in the Potomac River to support a healthy river ecosystem. This has the potential to conflict with water supplier needs for the Washington Metropolitan Area, including WSSC, which use the Potomac as a major water supply resource. Chapter 3 urges the County's support for the continuing scientific study of the flow-by issue in order to ensure the ecological health of the river, even if that means reevaluating the region's existing agreements on sharing the river's water resources.
- In reference to local and regional water conservation programs, Chapter 3 urges the County's public agencies to lead by example with respect to water conservation measures. DEP, in coordination with WSSC, would need to develop a plan to encourage these measures in County facilities, which may be coordinated with the proposed County Environmental Policy.
- The Chapter recommends an ongoing study of the potential benefit to the WSSC water supply system from the eventual closeout and acquisition of the Travilah Quarry, which could supply up to 17 billion gallons of raw water storage, within several miles of the Potomac Water Filtration Plant.

Chapter 4: SEWERAGE SYSTEMS

Chapter 4 describes the planning basis for the sewerage systems in the county. It identifies the regional, bi-county, and system relationships that are based on both political and geographic boundaries. The county's sewerage systems are defined according to the treatment plant service areas, sewer basins and planning areas located in the county. Similar to Chapter 3, DEP restructured the 2003 update to individually address the three major community sewerage systems in the county: WSSC, Rockville, and Poolesville. The WSSC system provides the majority of the community sewer service in the county, except for that provided by the Rockville Sanitary District and the Town of Poolesville. Accordingly, much of this chapter is dedicated to defining the regional agreements and policies that pertain to the WSSC system and how they relate to the provision of sewer service and capital project planning to meet anticipated system needs. The Chapter describes key policy and planning documents such as the Inter-Municipal Agreement (IMA), the Bi-County Agreement, the Strategic Sewerage Plan, and the District of Columbia legislation that created the District of Columbia Water and Sewer Authority (WASA). Details are provided that relate to the significant issues, terms, and conditions of these documents and their implications for the future.

Over ninety percent of the wastewater collected in the community sewerage systems in Montgomery County is conveyed to the Blue Plains Wastewater Treatment Plant (WWTP) in Washington D.C. Accordingly, the provisions of the IMA that govern the terms and conditions of shared use of this facility with the District of Columbia, Fairfax County and other regional entities is described in detail. Important issues to the county relate to peak and average flow limitations to the sewers that convey flows to Blue Plains, allocated treatment capacities to the user jurisdictions and the capital improvement projects planned for this facility. Related to Blue Plains and the terms of the IMA are issues that involve the use of the Potomac Interceptor, which was recently studied, and the management of the sewage treatment process by-product, sewage sludge, also known as biosolids.

Chapter 4 reviews needs for the sewerage system on a sewershed basis, utilizing GIS technology to map these areas and highlight parts of their sewerage systems requiring relief, either now or in the future. The completion of the expansion of the Seneca Wastewater Treatment Plant by fall 2003 is acknowledged by treating the Seneca WWTP service area as separate from the Blue Plains WWTP service area throughout the Chapter.

The Chapter's discussion of rural sanitation issues now includes a table which summarizes known septic system problem areas throughout the County. This information provides a basis for further investigations and actions to address these rural sanitation problems.

In addition to this documentation of the county's community sewerage systems, Chapter 4 also presents policy recommendations and directions related to sewerage systems for future guidance. The Chapter's major recommendations are summarized as follows:

- Based upon a long process of investigations by DEP, WSSC, and regional agencies, which began with the 1994 WSSC Strategic Sewerage Study, Montgomery County advocates the removal of the proposed Rock Run WWTP from the Water and Sewer Plan and from the WSSC CIP. Flow and treatment analyses and sewerage system planning decisions made since the plant was proposed (including the construction of the Seneca WWTP expansion) have rendered obsolete the decisions leading to the need for the Rock Run facility.
- Both Montgomery and Prince George's Counties need a better understanding and explanation of WSSC's prioritization of sanitary sewer evaluation studies. These issues affect capital expenditures, sewer overflow conditions, and regional agreements. The Plan suggests that WSSC develop a prioritized list of SSES basins and a financial plan to address the needs these studies reveal.
- Extraneous flows into WASA's sewerage system result in the District of Columbia exceeding its flow allowance at Blue Plains. This recommendation acknowledges the Counties' and WSSC's support for WASA's recently released extraneous flow reduction program. The successful implementation of such a program will help to ensure that WSSC will be able to use its allocated capacity at Blue Plains when it is needed.
- The Plan urges the County's continued support for the implementation of the capital and operational improvements to the Blue Plains WWTP from the 1999 WASA Biosolids Study, to ensure the long-term viability of the region's biosolids disposal program.
- The Plan urges WSSC to integrate its flow modeling systems with the MC:MAPS geographic information system, which can provide direct access to modeling information WSSC needs from the County.
- The Plan recommends that the County, WSSC and Rockville initiate a discussion concerning the differences between the WSSC/Rockville service area limits and the City's corporate limits, which often do not coincide, and with regard to Rockville's public service policies, which require annexation into the City to receive.

GLOSSARY AND APPENDICES

The Plan's glossary has been moved from Chapter 1 to a separate section at the end of the Plan. Additional terms have been added to help make more of the Plan's water and sewer service-related jargon easier to understand. Similarly, inventories on the County's multi-use systems (large-capacity, individual, on-site water and sewerage systems) has been moved from Chapters 3 and 4 to a new appendix. This is intended to make this information easier to reference, amend and update. Appendix A, which presents CIP projects has been updated to present projects included in WSSC's and Rockville's FYs 2003-2008 approved capital budgets.

The 2003 Comprehensive Water Supply and Sewerage Systems Plan provides a comprehensive update of this Montgomery County infrastructure plan. It incorporates updated information and policies that guide the extension of service in coordination with the adopted county land-use plans and Smart Growth initiatives. It conveys this information in graphic format where possible to make the information more understandable to the general public and in the County's planning processes. The next comprehensive update of the Plan will be completed in 2006.

RELATED DOCUMENTS:

- Rock Creek Watershed Restoration Action Plan, 2001
- Great Seneca Wastewater Treatment Plant Study Annual Report, 1998-2000
- Great Seneca Creek Watershed Study, 2002
- Street Sweeping for Pollutant Removal, 2002

All of the documents cited above are available online in PDF format on our askDEP.com website. In addition, the Department of Environmental Protection maintains an extensive collection of annual, technical, and general reports, public information factsheets, and related publications. Many are available in both PDF and HTML format, and in some cases, print copies of documents are available. Please contact us for more information.



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